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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/669,473 | 09/25/2003 | Akihisa Yamazaki | 2091-0293P | 4830 |
| 2292 7590 01/26/2007 BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747 | | | EXAMINER NEGRON, WANDA M | |
| | | | ART UNIT 2622 | PAPER NUMBER |

| SHORTENED STATUTORY PERIOD OF RESPONSE | NOTIFICATION DATE | DELIVERY MODE |
|--|-------------------|---------------|
| 3 MONTHS | 01/26/2007 | ELECTRONIC |

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Notice of this Office communication was sent electronically on the above-indicated "Notification Date" and has a shortened statutory period for reply of 3 MONTHS from 01/26/2007.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary

Application No.

10/669,473

Applicant(s)

YAMAZAKI, AKIHISA

Examiner

Wanda M. Negrón

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 September 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 2 is/are rejected.
- 7) ☒ Claim(s) 3-10 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Specification

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al. (US 5,539,462), and further in view of Harada (US 6,211,915 B1).**

5. Regarding claim 1, Lee et al. disclose an autofocus method (see col. 3, lines 41-43) comprising the steps of taking an image of a subject by a solid image taking device (see col. 3, lines 54-57), calculating a first evaluation on contrast obtained by integrating high-frequency components of an image signal (see col. 4, lines 38-41), calculating a second evaluation on contrast obtained by integrating high-frequency components of an

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image signal (see col. 4, lines 54-57), and adjusting the focus on the basis of the first and second evaluations on contrast so that the subject is imaged on the solid image taking device (see col. 2, lines 15-23).

However, Lee et al. do not disclose that the solid-state image device comprises a first image taking element having a plurality of pixels and a second image taking element having a plurality of pixels smaller than those of the first image taking element, and that the first and second evaluations on contrast are performed for an image of the subject taken by the first and second image taking elements, respectively.

Harada, on the other hand, teaches a solid-state image device with first and second image taking elements, each having a plurality of pixels (11, 12), the second ones smaller than the first ones (see fig. 4).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the image device disclosed by Harada with the auto-focusing system of Lee et al. because, as a result, an image device with a wider dynamic range is obtained (see Harada, col. 2, lines 8-12).

6. Claim 2 is drawn to the system corresponding to the method of using the same as claimed in claim 1. Therefore apparatus claim 2 corresponds to method claim 1, and is rejected for the same reasons of obviousness as used above.

Allowable Subject Matter

7. Claims 3-10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. The following is a statement of reasons for the indication of allowable subject matter:

9. Regarding claims 3, 6 and 9, the prior art fails to disclose or suggest that the autofocus system further comprises a **signal mixing means which generates a third image signal by mixing the first and second image signals**, and a **third evaluation calculating means** which calculates a third evaluation on contrast obtained by integrating high-frequency components of the third image signal in which the focusing means is provided with a function of adjusting the focus of the taking optical system on the basis of the third evaluation on contrast.

10. Regarding claims 4, 7 and 10, the prior art fails to disclose or suggest that the autofocus system further comprises a **brightness measuring means which measures the brightness of the third image signal** in which the focusing means is arranged to **adjust the focus of the taking optical system on the basis of the third evaluation on contrast** when the brightness measured by the brightness measuring means is lower than a threshold value.

11. Regarding claim 5, the prior art fails to disclose or suggest an autofocus system in which **the focusing means adjusts the focus on the basis of the second evaluation on contrast when the position of the taking optical system where the**

first evaluation on contrast is maximized differs from that where the second evaluation on contrast is maximized.

12. Regarding claim 8, the prior art fails to disclose or suggest an autofocus system in which **the focusing means adjusts the focus on the basis of the second evaluation on contrast when the second evaluation on contrast has only one peak whereas the first evaluation on contrast has a plurality of peaks.**

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Omata et al. (US 5,877,809) disclose a focus operation that uses the signal outputted from a plurality of subdivision areas within a taken image in order to obtain a high frequency component contained in each of the areas.
- Oda (US 6,831,692 B1) teaches a solid-state image device with a first and a second taking elements, having a plurality of pixels of different sizes.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wanda M. Negrón whose telephone number is (571) 270-1129. The examiner can normally be reached on Mon-Fri 6:30 am - 4:00 pm alternate Fri off.

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15. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Ometz can be reached on (571) 272-7593. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

16. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Wanda M. Negrón
January 22, 2007


TUAN HO
PRIMARY EXAMINER